

MUSCA DOMESTICA, LINN., AS A 'BUSH FLY' IN AUSTRALIA

BY

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In the literature dealing with the etiology of *M. domestica*, I can find no record of this species in the rôle of a 'bush fly,' *i.e.*, a fly which lives and breeds normally beyond the range of human habitations, although I understand that Major E. E. Austen is of opinion that this species originated in the tropics and has thence spread to temperate climates, where it is only able to maintain itself by the fact that it has taken to living in houses.

In two widely separated localities in North Australia, evidence has been gathered which strongly suggests in one case, and proves conclusively in the other, that this ubiquitous species is not dependent upon human habitations and environments for its existence.

During the period 1913-1917, specimens were frequently captured in the Darwin District (Northern Territory) on stock and carcasses at distances up to a couple of miles from dwellings, but for some time it was considered probable that these flies were bred under the usual conditions; later, however, examples were captured in company with *Musca ventrosa*, Wied. (*M. nigrithorax*, Stein.), and *M. humilis*, Wied. (*M. vetustissima*, Walk.) on the carcasses of freshly skinned buffaloes which had been shot in scrub country from three to six miles distant from the nearest habitation—a cattle station sixteen miles distant from the next nearest dwelling and about thirty miles from Darwin. During the summer months, *M. domestica* were very numerous at the station, especially in the kitchen and adjacent living room, but they were not seen on men or horses after leaving the homestead for the haunts of the buffaloes.

In April, 1919, an officer of the Stock Department, Townsville (N. Q.), brought in for identification a large number of flies which had been captured in the vicinity of a slaughter-yard and upon

stock grazing in the locality, in some cases more than a mile from the nearest dwelling. This and later collections invariably included a large proportion of *M. domestica*.

During the months of April to October, flies of the same species were frequently captured upon grazing horses and cattle, and upon my face, hands and clothing in the Town Common at distances up to two and a half miles from habitations. On these occasions they were generally associated with *M. lusoria*, Wied.¹ (*M. australis*, Macq.,² *M. fergusonii*, J. & B.³), and *M. nebulo*, F.⁴, (*M. hilli*, J. & B.⁵), the last named being less aggressive than the others. From October to about the end of March, *M. humilis*, Wied.⁶ (*M. vetustissima*, Walk.) is the predominant species, and is certainly the most widely distributed *Musca* found in Australia, being as plentiful in the outer suburbs of Melbourne (Victoria) as it is in Central Australia, N. Territory, and the N.W. and Kimberley Divisions of W. Australia.

In the bush or open grazing country near Townsville, *M. domestica* oviposits on fresh horse-droppings, but they will also oviposit and rear their progeny on decaying vegetable matter, as shown by the fact that upon two occasions I have bred adults from full-grown larvae taken in nests of the Black-throated Grebe (*Podiceps novae-hollandiae*), which had become stranded upon the margin of a swamp, and in which the eggs had not yet hatched. The same nests and, also, small accumulations of drift, *i.e.*, leaves, horse- and cow-droppings, etc., blown up upon the margins of swamp, served as breeding-places for *Stomoxys calcitrans* and *Sarcophaga* sp.

Major E. E. Austen, who kindly examined the specimens of *M. domestica* from bush localities in N. Territory and N. Q., determined the latter as a variety of the typical form. Evidently the distinction is a very fine one, since recently I have examined a much longer series than was available to that worker, and I have compared them and their larvae with typical forms (from town dwellings) and their progeny, without being able to detect any variations peculiar to one series.

(1), (4), (6) Identified by Professor M. BEZZI.

(2) Identified by Major E. E. AUSTEN.

(3) JOHNSTON, T. H. and BANCROFT, M. J. *Proc. Roy. Soc. Queensland*. Vol. XXXI, No. 12.

(5) JOHNSTON, T. H. and BANCROFT, M. J. *Mem. Queensland Museum*. Vol. VII, pt. 1.